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EXAMINER	
KUMAR, PANKAJ	
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2631	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/533,342	NAYLER, COLIN D.
	Examiner	Art Unit
	Pankaj Kumar	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,11-14,21 and 22* is/are rejected.

7)☒ Claim(s) *5-10,15-20,23 and 24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 22 is objected to because of the following informalities: The word "envelop" should probably be 'envelope'. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 11-14, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korn 6424221.

4. As per claim 1, Korn teaches a network receiver configured for receiving a modulated carrier signal from another network transceiver via a network medium, the network receiver comprising:

a) an input amplifier (not in Korn. It would have been obvious to one skilled in the art at the time of the invention to modify Korn to include an amplifier like element 20 before element 14 in fig. 1 since it has been held that duplicating parts of an invention requires routine skill in the art. Also, it would result in a stronger signal in fig. 1.) for amplifying a received modulated

carrier signal according to one of a plurality of amplifier gain settings and outputting an amplified carrier signal (Korn fig. 1: output of 20);

b) an envelope detector configured for outputting an envelope signal in response to the amplified carrier signal (Korn fig. 1: element 14 can filter the envelope by filtering low pass);

c) a first gain control circuit (Korn fig. 1: 20) configured to select a first gain setting (Korn fig. 1: 20 is a variable gain amplifier – so it can be variably set) in response to the envelope signal (Korn fig. 1: element 28 operates in response to the envelope signal via other components and element 28 also adjusts the gain), the first gain setting being optimal for receiving a pulse position modulated carrier signal (Korn does not teach this. It would have been obvious to one skilled in the art at the time of the invention to modify Korn to make 20 optimal. One would be motivated to do so for efficiency);

d) a second gain control circuit (Korn fig. 1: 24) configured to select a second gain control setting in response to the envelope signal, the second gain setting being optimal for receiving a quadrature amplitude modulated signal (Korn does not teach this. It would have been obvious to one skilled in the art at the time of the invention to modify Korn to make element 24 optimal. One would be motivated to do so for efficiency); and

e) selection circuitry (Korn fig. 1: 52) configured to determine whether the envelope signal represents a pulse position modulated carrier (Korn fig. 1: 52 PPM) or an amplitude modulated carrier (Korn fig. 1: 52 AM) and sets the amplifier gain setting to the first gain setting or a second gain setting respectively (Korn fig. 1: 52 Gain Select).

5. As per claim 2, Korn teaches the network receiver of claim 1, further including an analog to digital converter (Korn fig. 1: 26) generating a digital carrier signal in response to the amplified carrier signal (Korn fig. 1 output of 26 is after the amplifiers), the envelope detector responsive to the digital carrier signal (not in Korn. It would have been obvious to one skilled in the art at the time of the invention to modify Korn since it has been held that rearranging parts of an invention (in this case shifting the location of 26 so that the envelope detector 14 is responsive to 26) requires routine skill in the art).

6. As per claim 3, Korn teaches the network receiver of claim 2, further including a Hilbert transformer generating a digital I channel carrier signal and a digital Q channel carrier signal in response to the amplified carrier signal, the envelope detector responsive to the digital I channel carrier signal and the digital Q channel carrier signal (not in Korn. It would have been obvious to one skilled in the art at the time of the invention to modify Korn since it has been held that lacking any criticality, to make prior art parts separable (in this case separating the signal into In-phase I and Quadrature Q components) does not make the claimed invention patentable over that prior art (Nerwin v. Erlichman, 168 USPQ 177). Also, it has been held that the selection of known material (in this case a Hilbert transform) based on its suitability for the intended use (in this case for separating the signals into I and Q components) for prior art parts does not make the claimed invention patentable over that prior art (In re Leshin, 125 USPQ 416).).

7. As per claim 4, Korn teaches the network receiver of claim 3, wherein the selection circuitry includes a carrier sense circuit for detecting the duration of a power pulse in the

envelope signal (Korn fig. 1: signal duration is inherently detected when the signal is output – the duration is from the time the signal started to the time it stopped).

8. As per claim 11, Korn teaches a method of determining a gain setting for an input amplifier generating an amplified carrier signal in a receiver configured for receiving a modulated carrier signal from a network medium, the method comprising:

a) generating an envelope signal (Korn fig. 1: element 14 can generate the envelope by filtering low pass) from the amplified carrier signal representing the amplified carrier signal power (not in Korn. It would have been obvious to one skilled in the art at the time of the invention to modify Korn to include an amplifier like element 20 before element 14 in fig. 1 since it has been held that duplicating parts of an invention requires routine skill in the art. Also, it would result in a stronger signal in fig. 1.);

b) determining a first gain setting (Korn fig. 1: 20 is variably determined and set accordingly) in response to the envelope signal (Korn fig. 1: 20 is in response to 14), the first gain setting selected for receiving a pulse position modulated carrier signal (Korn fig. 1: 20 is set from 28 which includes the PPM gain selection in 52);

c) determining a second gain setting (Korn fig. 1: 24 is variably determined and set accordingly) in response to the envelope signal (Korn fig. 1: 24 is in response to 14), the second gain setting selected for receiving a quadrature amplitude modulated carrier signal (Korn fig. 1: 24 is set 50 which receives information through the QAM gain selection in 52);

d) determining whether the modulated carrier signal is a pulse position modulated carrier or a quadrature amplitude modulated carrier (Korn fig. 1: 52 selects the gain for QAM and PPM and accordingly determines the signal type); and

e) setting the gain of the input amplifier to the first gain setting if the modulated carrier signal is determined to be a pulse position modulated carrier and setting the input amplifier gain to the second gain setting if the modulated carrier signal is determined to be a quadrature amplitude modulated carrier (Korn fig. 1: 52 selects one gain for QAM and selects another gain for PPM which may or may not be equivalent to QAM).

9. As per claim 12, Korn teaches the method of claim 11, further comprising converting the amplified carrier signal to a digital carrier signal, the envelope signal being generated from the digital carrier signal (discussed above).

10. As per claim 13, Korn teaches the method of claim 12, further comprising generating an I channel signal and a Q channel signal from the digital carrier signal, the envelope signal being generated from the I channel signal and the Q channel signal (discussed above).

11. As per claim 14, Korn teaches the method of claim 13, wherein the step of setting the gain of the input amplifier includes detecting the duration of a power pulse in the envelope signal (discussed above).

12. As per claim 21, Korn teaches a network receiver configured for receiving a modulated carrier signal from another network transceiver via a network medium, the network receiver comprising:

a) an input amplifier (not in Korn. It would have been obvious to one skilled in the art at the time of the invention to modify Korn to include an amplifier like element 20 before element 14 in fig. 1 since it has been held that duplicating parts of an invention requires routine skill in the art. Also, it would result in a stronger signal in fig. 1.) for amplifying a received modulated carrier signal according to one of a plurality of amplifier gain settings and outputting an amplified carrier signal (Korn fig. 1: output of 20);

b) a first gain control circuit (Korn fig. 1: 20) for providing a first amplifier gain setting (Korn fig. 1: 20 is a variable gain amplifier – so it can be variably set) based on a carrier signal modulated in accordance with a first modulation method (Korn fig. 1: element 28 operates based on the modulated carrier signal via other components and element 28 also adjusts the gain)

c) a second gain control circuit (Korn fig. 1: 24) for providing a second amplifier gain setting (Korn fig. 1: 24 is a variable gain amplifier – so it can be variably set) based on a carrier signal modulated in accordance with a second modulation method (Korn fig. 1: element 50 operates based on the modulated carrier signal via other components and element 50 also adjusts the gain);

d) a selection circuit for identifying whether the carrier signal is modulated in accordance with the first modulation method or the second modulation method, and for providing a gain control signal to the input amplifier in accordance therewith (Korn fig. 1: 52 selects one gain for QAM

and selects another gain for PPM which may or may not be equivalent to QAM. 52 also influences the output of 50 and 28 which control the gain of 20 and 24).

13. As per claim 22, Korn teaches the network receiver of claim 21, wherein the selection circuit includes envelop detection circuitry for detecting the duration of a power pulse in the envelope signal (discussed above).

14. Claims 1-4, 11-14, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faugeron 4607390.

15. As per claim 1, Faugeron teaches a network receiver configured for receiving a modulated carrier signal from another network transceiver via a network medium, the network receiver comprising:

a) an input amplifier for amplifying a received modulated carrier signal according to one of a plurality of amplifier gain settings and outputting an amplified carrier signal (Faugeron fig. 1: 3 with AGC signal from 5);

b) an envelope detector configured for outputting an envelope signal in response to the amplified carrier signal (Faugeron fig. 1: AM demod 1 and FM demod 2; outputs of the demodulator are after the amplifier 3);

c) a first gain control circuit configured to select a first gain setting in response to the envelope signal, the first gain setting being optimal for receiving a pulse position modulated carrier signal (Faugeron fig. 1, col. 2: "The demodulator 1 also supplies at its output 5 an AGC signal for

automatically controlling the gain of the IF-amplifier 3, in such manner that the amplitude of the amplified IF signal is substantially constant.");

d) a second gain control circuit configured to select a second gain control setting in response to the envelope signal, the second gain setting being optimal for receiving a quadrature amplitude modulated signal (not in Faugeron. It would have been obvious to one skilled in the art at the time of the invention to modify Faugeron by having an AGC and amplifier in FM demodulator 2 as it is in the AM demodulator 1 since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.); and

e) selection circuitry configured to determine whether the envelope signal represents a pulse position modulated carrier or an amplitude modulated carrier (Faugeron fig. 1: the setting of switch 7 determines whether the signal is amplitude modulated (AM) or frequency modulated (FM) – a FM signal is modulated by changing the position of the pulse and hence pulse position modulation) and sets the amplifier gain setting to the first gain setting or a second gain setting respectively (Faugeron fig. 1: if switch 7 is set for an AM signal, the AGC is dependent on the AM signal, else the AGC and amplifier can be duplicated as explained above and this gain will take effect).

16. As per claim 2, Faugeron teaches the network receiver of claim 1, further including an analog to digital converter generating a digital carrier signal in response to the amplified carrier signal, the envelope detector responsive to the digital carrier signal (not in Faugeron. It would have been obvious to one skilled in the art at the time of the invention to modify Faugeron since

it has been held that lacking any criticality, changing the form (in this case going from an analog form to a digital form) or shape of prior art parts does not make the claimed invention patentable over that prior art (In re Dailey, 149 USPQ 47).).

17. As per claim 3, Faugeron teaches the network receiver of claim 2, further including a Hilbert transformer generating a digital I channel carrier signal and a digital Q channel carrier signal in response to the amplified carrier signal, the envelope detector responsive to the digital I channel carrier signal and the digital Q channel carrier signal (not in Faugeron. It would have been obvious to one skilled in the art at the time of the invention to modify Faugeron since it has been held that lacking any criticality, to make prior art parts separable (in this case separating the signal into In-phase I and Quadrature Q components) does not make the claimed invention patentable over that prior art (Nerwin v. Erlichman, 168 USPQ 177). Also, it has been held that the selection of known material (in this case a Hilbert transform) based on its suitability for the intended use (in this case for separating the signals into I and Q components) for prior art parts does not make the claimed invention patentable over that prior art (In re Leshin, 125 USPQ 416).).

18. As per claim 4, Faugeron teaches the network receiver of claim 3, wherein the selection circuitry includes a carrier sense circuit for detecting the duration of a power pulse in the envelope signal (Faugeron fig. 1: signal duration is inherently detected when the signal is output – the duration is from the time the signal started to the time it stopped).

19. As per claim 11, Faugeron teaches a method of determining a gain setting for an input amplifier generating an amplified carrier signal in a receiver configured for receiving a modulated carrier signal from a network medium, the method comprising:

a) generating an envelope signal from the amplified carrier signal representing the amplified carrier signal power (Faugeron fig. 1: 1, 3);

b) determining a first gain setting in response to the envelope signal, the first gain setting selected for receiving a pulse position modulated carrier signal (not in Faugeron. It would have been obvious to one skilled in the art at the time of the invention to modify Faugeron by having an AGC and amplifier in FM demodulator 2 as it is in the AM demodulator 1 since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.);

c) determining a second gain setting (Faugeron fig. 1:AGC) in response to the envelope signal (Faugeron fig. 1: input into 1,3), the second gain setting selected for receiving a quadrature amplitude modulated carrier signal (not in Faugeron. Faugeron has an AM instead of QAM. It would have been obvious to one skilled in the art at the time of the invention to modify Faugeron since it has been held that lacking any criticality, changing the form (in this case going from AM form to QAM form) or shape of prior art parts does not make the claimed invention patentable over that prior art (In re Dailey, 149 USPQ 47).);

d) determining whether the modulated carrier signal is a pulse position modulated carrier or a quadrature amplitude modulated carrier (Faugeron fig. 1: the setting of switch 7 determines whether the signal is amplitude modulated (AM) or frequency modulated (FM) – a FM signal is modulated by changing the position of the pulse and hence pulse position modulation); and

e) setting the gain of the input amplifier to the first gain setting if the modulated carrier signal is determined to be a pulse position modulated carrier and setting the input amplifier gain to the second gain setting if the modulated carrier signal is determined to be a quadrature amplitude modulated carrier (Faugeron fig. 1: if switch 7 is set for an AM signal, the AGC is dependent on the AM signal, else the AGC and amplifier can be duplicated as explained above and this gain will take effect).

20. As per claim 12, Faugeron teaches the method of claim 11, further comprising converting the amplified carrier signal to a digital carrier signal, the envelope signal being generated from the digital carrier signal (discussed above).

21. As per claim 13, Faugeron teaches the method of claim 12, further comprising generating an I channel signal and a Q channel signal from the digital carrier signal, the envelope signal being generated from the I channel signal and the Q channel signal (discussed above).

22. As per claim 14, Faugeron teaches the method of claim 13, wherein the step of setting the gain of the input amplifier includes detecting the duration of a power pulse in the envelope signal (discussed above).

23. As per claim 21, Faugeron teaches a network receiver configured for receiving a modulated carrier signal from another network transceiver via a network medium, the network receiver comprising:

a) an input amplifier for amplifying a received modulated carrier signal according to one of a plurality of amplifier gain settings and outputting an amplified carrier signal (Faugeron fig. 1: 3 with AGC signal from 5);

b) a first gain control circuit for providing a first amplifier gain setting based on a carrier signal modulated in accordance with a first modulation method (Faugeron fig. 1, col. 2: "The demodulator 1 also supplies at its output 5 an AGC signal for automatically controlling the gain of the IF amplifier 3, in such manner that the amplitude of the amplified IF signal is substantially constant.");

c) a second gain control circuit for providing a second amplifier gain setting based on a carrier signal modulated in accordance with a second modulation method (not in Faugeron. It would have been obvious to one skilled in the art at the time of the invention to modify Faugeron by having an AGC and amplifier in FM demodulator 2 as it is in the AM demodulator 1 since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.);

d) a selection circuit for identifying whether the carrier signal is modulated in accordance with the first modulation method or the second modulation method (Faugeron fig. 1: if switch 7 is set for an AM signal, the AGC is dependent on the AM signal, else the AGC and amplifier can be duplicated as explained above and this gain will take effect), and for providing a gain control signal to the input amplifier in accordance therewith (Faugeron fig. 1: if switch 7 is set for an AM signal, the AGC is dependent on the AM signal and the AGC is provided to amplifier 3, else the AGC and amplifier can be duplicated as explained above and this gain will take effect and will be applied to the duplicated amplifier).

24. As per claim 22, Faugeron teaches the network receiver of claim 21, wherein the selection circuit includes envelop detection circuitry for detecting the duration of a power pulse in the envelope signal (discussed above).

Allowable Subject Matter

25. Claims 5-10, 15-20, 23-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

26. The following is a statement of reasons for the indication of allowable subject matter: The art of record does not suggest the respective claim combinations together and nor would the respective claim combinations be obvious with the bolded underlined portion:

27. As per claim 5, Faugeron teaches the network receiver of claim 4, wherein ***the selection circuitry selects the first gain setting if the duration of a power pulse is less than a duration on the order of a duration of a pulse position modulation power pulse*** (not in Faugeron or Korn).

28. Claims 6-10 are objected to since they depend on objected claim 5.

29. As per claim 15, Faugeron teaches the method of claim 14, wherein the ***gain of the input amplifier is set to the first gain setting if the duration of a power pulse is less than a duration on the order of a duration of a pulse position modulation power pulse*** (not in Faugeron or Korn)

30. Claims 16-20 are objected to since they depend on objected claim 15.

31. As per claim 23, teaches the network receiver of claim 22, wherein ***the selection circuit provides a gain control signal coupling the first amplifier gain setting to the input amplifier if the duration of a power pulse is less than a duration on the order of a duration of a pulse position modulation power pulse*** (not in Faugeron or Korn)

32. Claim 24 are objected to since they depend on objected claim 23.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki 5907585

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Mon, Tues, Thurs, Fri after 8AM to after 6:30PM.

35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (703) 305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

36. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

PK
July 21, 2003

TEMESGHEN GHEBRETINSAE
PRIMARY EXAMINER
7/22/03